UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,350	11/29/2001	Thomas W. Lanzatella	1557-005US1	6058

	7590	04/19/2006

B Noel Kivlin
Meyertons Hood Kivlin Kowert & Goetzel P C
P O Box 398
Austin, TX 78767-0398

EXAMINER
THAI, HANH B

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/997,350	LANZATELLA ET AL.
	Examiner	Art Unit
	Hanh B. Thai	2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*RCE filed 2/15/06.*</u>
2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-7 and 21-28* is/are pending in the application.
    4a) Of the above claim(s) *8-20* is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-7 and 21-28* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The following is a Non-final Office Action in response to the RCE received on February 15,

2006. Claims 8-20 have been withdrawn. Claims 1-7 and 21-28 are pending in this application.

Response to Arguments

1.   Applicant's arguments filed February 15, 2006 have been fully considered but they are

not persuasive.

Applicant's arguments regarding the difference between the claimed storage object and

object of Bracha (pages 7-8) have been considered but not found persuasive.

In response: Application seems to assert the claimed object differs from the storage

object of Bracha. However, examiner is not persuasive. Despite the arguments, these objects are

the same object in that they are both identified the location of the storages.

Applicant's arguments regarding the plug-in modules (pages 8-9) have been considered

but are moot in new ground of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bracha et al.

(US 6,687,760) in view of Harrison et al. (US Patent no. 6,128,717).

Regarding claim 1, Bracha discloses a method for resolving a storage object's absolute

location within a first storage environment to grant access to the storage object, comprising:

- receiving a storage object reference which corresponds to the storage object (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha discloses the class that satisfies the criteria reads on "a storage object reference");

- determining an initial stack level associated with the storage object reference (abstract; summary and col.5, lines 39-55, Bracha);

- iterating through one or more additional stack levels beginning with the initial stack level (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha); and

- translating the storage reference through each iteration (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha).

Bracha, however, does not explicitly disclose receiving a request to access a storage object residing on a non-volatile storage device and relative extents until the absolute extents are obtained. Harrison discloses a method for storage application programming interface for storage and retrieval based upon data object type or size including receiving a request to access a storage object (col.3, lines 1-15, Harrison discloses a request to access to storage disk on the storage disk drive. The storage disk drive is construed as non-volatile storage device). Harrison further discloses the relative extents in storage (see col. 6, lines 1-8; Fig. 6 and corresponding text, Harrison). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Bracha as taught by Harrison to include the claimed features. The motivation of doing so would have been to improve the techniques for accessibility to objects (col.2, lines 48-53, Bracha).

Regarding claim 2, Bracha/Harrison combination discloses that the reference is received

from a module included in an application programming interface (API) library (see summary of

Harrison).

Regarding claim 3, Bracha/Harrison combination discloses that the reference is obtained

from a client module initiating one or more storage-access modules of the API library resulting

in the initiation of the module (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59,

Bracha).

Regarding claim 4 Bracha/Harrison combination discloses that the client module resides

in a second storage environment (see Fig.2 and corresponding text, Harrison).

Regarding claim 5, Bracha/Harrison combination discloses that a file system and volume

manager associated with the first storage environment is identified (see Fig.1A and

corresponding text, Harrison).

Regarding claim 6, Bracha/Harrison combination discloses the translating the storage

reference, the file system and volume manager provide one or more operations to translate the

storage reference into one or more of the relative extents and one or more of the absolute extents

(abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59, Bracha).

Regarding claim 7, Bracha/Harrison combination discloses one or more modules within

an API library (element 50, Fig.6 and corresponding text, Harrison).

3.   Claims 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bracha et

al. (US 6,687,760) in view of Jackowski et al. (US 6,141,686).

Regarding claim 21, Bracha discloses a storage object access system, comprising:

-        a storage management stack having a plurality of stack levels, wherein the stack

         levels include a lowest level identifying one or more storage devices of a first

         storage environment (abstract; summary; col.5, lines 39-55 and line 57 to col.6,

         line 59 and Fig.4-5, Bracha showing the path stack with the "class D"

         corresponding to a lowest level of the stack);

-        the stack levels to resolve a reference to a storage object and to pass the resolved

         reference to a next stack level, unless the resolved reference is an absolute

         reference to the storage object housed on one or more of the storage devices

         (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 23, Bracha); and

Bracha, however, does not explicitly disclose the module interfaces and controller that

selectively calls a number of the plug-in modules until the absolute reference is obtained.

Jackowski discloses extensible service provider for controlling the plug-in modules and

the controller that selectively calls a number of the plug-in modules (see Figs.4-5; Fig.11;

abstract and col.3, line 40 to col.4, line 48; col.9, lines 5-19 and col.14, lines1-21,

Jackowski). It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Bracha as taught by Jackowski to include the claimed features.

The motivation of doing so would have been to increase the efficiency of Jackowski's

system by managing and controlling the accessibility to objects on plurality operating

systems (col.3, line 40 to col.4, line 48, Jackowski).

Regarding claim 22, Bracha/ Jackowski combination discloses one or more replica

references are obtained by the controller with the obtained absolute reference, the replica

references identifying replicas for the storage object within the first storage environment (see

col.3, line 40 to col.4, line 48; col.9, lines 5-19 and col.14, lines1-21, Jackowski).

Regarding claim 23, Bracha/ Jackowski combination discloses that the controller is an

application programming interface (API) library (see col.3, lines 53-60, Jackowski).

Regarding claim 24, Bracha/ Jackowski combination discloses the controller executes in

both the first storage environment and a second storage environment (col.7, lines 45-54,

Jackowski).

Regarding claim 25, Bracha/ Jackowski combination discloses that the controller is used

by a client module in a second storage environment (see col.3, line 40 to col.4, line 48; col.9,

lines 5-19 and col.14, lines1-21, Jackowski).

Regarding claim 26, Bracha/ Jackowski combination discloses the storage management

stack is a storage hierarchy representing a storage configuration for the storage object within the

first storage environment (abstract; summary; col.5, lines 39-55 and line 57 to col.6, line 59,

Bracha).

Regarding claims 27-28, Bracha/ Jackowski combination discloses an application level, a

file system level, a volume manager level, and a device level (col.3, line 40 to col.4, line 48;

col.9, lines 5-19 and col.14, lines1-21 and col. 16, lines 15-19, Jackowski).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

1. Lee et al. (US 6,564,219 B1) disclose mehtod and apparatus for obtaining an identifier

for a logical unit of data in a database.

2. Webb et al. (US 2002/0120741 A1) disclose systems and methods for using distributed interconnects in information management environments.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh B. Thai whose telephone number is 571-272-4029. The examiner can normally be reached on 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh B Thai
Examiner
Art Unit 2163

April 3, 2006

DON WONG
SUPERVISORY PATENT EXAMINER